CLMod
RS485 to current loop converter

CLMod is an RS485 to 20 mA current loop converter. CLMod can remotely gather data from electricity meters. This converter was developed to read multiple meters of data over a 20mA current loop interface with long-distance lines up to 2km. CLMod with 6 current loop interfaces is capable of reading data up to 30 meters (5 meters per single current loop). CLMod is protocol agnostic you can use any type of serial protocol.

Applications

- Power Grid
- Solar energy projects
- Wind energy projects
- Hydro energy projects
- Energy storage applications
- Factory resources supervision
- Energy sub-metering applications

Technical documentation

Ordering

Features

- 6 independent 20mA current loop interfaces
- Galvanic 3kV(rms) isolation
- LED indication of data transmission on every current loop interface
- Supports 5 meters per current loop (30 meters total)
- Baud rates: 1200 to 9600
- Automatic open-loop detection and disconnection
- Fail indication for each current loop
- Integrated current loop protection
- Compatible with Elgama Elektronika meters
- RS485 interface for RTU/Datalogger
- Operating temperature: -40ºC +80ºC
- Dimension 101x119x17.5mm

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Interfaces and functions

Meter interfaces	6 independent current loop interfaces (20mA)
Interface capacity	5 meters per interface (where voltage drop per meter <2VDC)
Total meters	up to 30 (6×5 meters)
Interface protection	>3 kV individual isolation of each interface
Max pulse discharge current	up to 10kA (8/20 µs)
Reaction time	>=1µs
Cut off current	> 200mA
Max input voltage	33 VDC

Interface and communication

RS485 interface	ANSI/TIA/EIA-485-A-1998
Communication protocols	Protocol agnostic (transparent) tested with: – Modbus RTU; – DLMS/COSEM; – IEC 62056-21; – IEC 62056-31.
Baudrate	1200 – 9600 baud
Parity	None, Even, Odd
Terminating resistors	120 Ohm (configurable)
Current loop interface	6 independent interfaces
Galvanic isolation	Product Description
Max distance	<2 km per interface
Max meters	up to 5 meters per interface
Protection	on every current loop interface independent

Power supply

Auxiliary power supply	9-33VDC (full range)
Power consumption	40mA @ 12VDC, 20mA @ 24 VDC
Insulation voltage	3 kV

Operating conditions

Operating temperature	-40°C … 55°C
Storage temperature	-40°C … 85°C
Relative humidity	max. 95 % (non condensing)
Protection class	IP20

Dimensions and installation instructions

Case height x width x depth	119 x 17.5 x 101 mm
Installation type	DIN Rail mounting

Order Code

CLMOD6	6x current loop interfaces for a meter with RS485 interface for a communication device.